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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of:)
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Kaname KONO)
)
Serial No.: 09/671,814)
)
Filed: September 27, 2000)
)
For: FINE DIE CAST)
METALLIC PARTS)

Group Art Unit: 1742
Examiner: Andrew E. Wessman
Attorney Docket: 029493/0138

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APPELLANT'S BRIEF UNDER 37 C.F.R. § 1.192

Commissioner for Patents
Washington, D.C. 20231

Sir:

The following is the Appellant's Brief, submitted in triplicate and under the provisions of 37 C.F.R. 1.192. The fee of \$320 required by 37 C.F.R. 1.17(c) is provided in a check submitted herewith.

1. Real Party in Interest

The real party in interest is Takata Corporation, a Japanese corporation.

2. Related Appeals and Interferences

There are no related appeals or interferences that will directly affect, be directly affected by or have a bearing on the present appeal, that are known to appellant, the assignee, or the appellant's patent representative.

3. Status of Claims

Claims 1-12 are pending. Claims 8-12 have been withdrawn by original presentation. A copy of the pending claims is present in the APPENDIX.

Claims 1-5 were rejected under 35 U.S.C. § 103 as being unpatentable over Kalpakjian text book or Marder et al.

Claims 6 and 7 were rejected under 35 U.S.C. § 103 as being unpatentable

over Marder et al.

Claims 1-7 are on appeal.

4. Status of Amendments

The Amendment filed under 35 U.S.C. § 116 addressing the rejections in the Office Action mailed June 18, 2002 was entered per the Advisory mailed October 9, 2002. The § 112, first paragraph rejection was withdrawn in the Advisory.

5. Summary of the Invention

The claimed invention is directed to a molded metal part produced by a fine die cast injection molding process. The process includes the steps of (a) introducing the melted material into a first chamber (page 10, lines 4-13); (b) allowing at least a portion of the melted material to pass through said first chamber into a second chamber, wherein said allowing step comprises creating a suction in the second chamber to draw the portion of the melted material from the first chamber into the second chamber (page 11, line 2 to page 12, line 6); (c) pushing at least a portion of the melted material remaining in the first chamber into said second chamber (page 11, line 2 to page 12, line 6); (d) injecting the melted material from the second chamber into the mold (page 11, line 2 to page 12, line 6); and (e) forming in the mold the molded metal part, the molded metal part having a thickness less than 1 mm and wherein the as-molded surface is sufficiently smooth so that the surface is suitable for painting directly without further processing (page 5, lines 10-14).

6. Issues

Whether claims 1-5 are unpatentable under 35 U.S.C. § 103(a) over Kalpakjian text book or Marder et al.

Whether claims 6, 7 are unpatentable under 35 U.S.C. § 103(a) over Marder et al.

7. Grouping of Claims

Claims 1-7 stand or fall together.

8. Argument**SUMMARY OF THE ARGUMENT**

Claims 1-7 are allowable over the cited prior art because the cited prior art does not teach or suggest molded parts having the claimed dimensions with an as-molded surface sufficiently smooth so that the surface is suitable for painting directly without further processing.

ARGUMENT

Kalpakjian teaches several casting processes capable of “good dimensional accuracy and surface detail, thus requiring little or no subsequent machining or finishing operations.” Kalpakjian at 263. However, Kalpakjian does not teach forming a molded metal part “having a **thickness less than 1 mm** wherein the as-molded surface is sufficiently smooth so that the surface is suitable for painting directly without further processing”, as recited in claim 1. Applicant submits that the textbook probably refers to casting thick sections requiring little or no subsequent machining or finishing operations. In contrast, it is very difficult to cast parts having a thickness less than 1 mm that require little or no subsequent machining or finishing operations by prior art methods. However, the method described in the present application is suitable for forming molded metal parts having a thickness less than 1 mm and which can be painted without further processing. Kalpakjian neither teaches nor suggests a casting method capable of forming a molded metal part “having a **thickness less than 1 mm** wherein the as-molded surface is sufficiently smooth so that the surface is suitable for painting directly without further processing.” Thus, Kalpakjian cannot render claim 1 or any of its dependent claims obvious.

Marder et al. teach beryllium-containing alloys of magnesium which can be cast to form parts as thin as 0.019 inches (0.48 mm). However, Marder et al. is silent as to the quality of the surface of such parts. As discussed above, it is very difficult to cast parts having a thickness less than 1 mm that require little or no subsequent machining or finishing operations. Because the surface quality of a cast part is not inherent, the Office

Action must supply a secondary reference which provides motivation and teaching of how to mold a 0.48 mm part that can be painted without further processing in order to establish *prima facie* the obviousness. Since the Office Action has not done so, it has failed to meet the burden for a *prima facie* case of obviousness. Therefore, Applicant submits that claims 1-7 are not obvious over Marder et al.

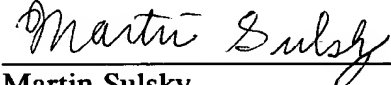
CONCLUSION

Accordingly, Appellants respectfully solicit the Honorable Board of Patent Appeals and Interferences to reverse the rejection of the pending claims and pass this application on to allowance.

A Petition and fee for a one month extension of time are enclosed.

Respectfully submitted,

January 5, 2003
Date


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Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge deposit account No. 19-0741 for any such fees; and applicant hereby petitions for any needed extension of time.

Appendix:

1. A molded metal part produced by a process comprising the steps of:
introducing the melted material into a first chamber;
allowing at least a portion of the melted material to pass through said first chamber into a second chamber, wherein said allowing step comprises creating a suction in the second chamber to draw the portion of the melted material from the first chamber into the second chamber;
pushing at least a portion of the melted material remaining in the first chamber into said second chamber;
injecting the melted material from the second chamber into the mold; and
forming in the mold the molded metal part, the molded metal part having a thickness less than 1 mm and wherein the as-molded surface is sufficiently smooth so that the surface is suitable for painting directly without further processing.
2. The molded metal part of claim 1, wherein the surface feature is an engraving.
3. The molded metal part of claim 1, wherein the surface feature is protruding.
4. The molded metal part of claim 1, wherein the surface feature is continuous.
5. The molded metal part of claim 1, wherein the melted material is a magnesium alloy.
6. The molded metal part of claim 1, wherein the thickness is in the range of approximately 0.5 mm to approximately 1.0 mm.
7. The molded metal part of claim 1, wherein the molded metal part has dimensions of approximately 21.0 cm by approximately 29.7 cm.